

PATENT CLAIMS:

1. Composition for attracting blood sucking arthropods and/or fruit flies comprising an effective amount of:
 - 15 a) at least one compound from group I, II or III or an acceptable salt thereof or a combination thereof with
 - group I consisting of alpha-hydroxycarboxylic acids, particularly alpha-hydroxymonocarboxylic acids, each containing a C₀ – C₈ alkyl chain group;
 - group II consisting of alpha-thiomonocarboxylic acids and alpha-thiodicarboxylic
20 acids, each containing a C₀ – C₈ alkyl chain group;
 - group III consisting of at least one compound of group I or II wherein the alkyl group is substituted by a C₆ – C₁₀ aryl group;
 - b) at least one compound of C₄-C₈ carboxylic acids and acceptable salts thereof, selected
25 from the group consisting of butyric acid, valeric acid, caproic acid, oenanthic acid, caprylic acid and variations thereof, wherein said variations are defined as having one or more unsaturated bonds and/or being branched carboxylic acids.
 - c) ammonia and/or primary amines with C₁ – C₆ atoms.
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2. The composition of claim 1 wherein the alkyl chain contains 1, 2, 3, 4, 5, 6, 7 or 8 carbon atoms.
3. The composition of claim 1 wherein the aryl group is a phenyl group.
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4. The composition of any one of claims 1, 2 or 3 wherein compound a) is selected from glycolic acid, thiolactic acid, lactic acid, thiomalic acid, tartaric acid and mandelic acid, and wherein in c) ammonia is used in form of an ammonia releasing compound.
5. The composition of any one of the preceding claims comprising lactic acid, caproic acid, ammonia, and acceptable salts thereof, or wherein heptanoic acid is used instead of or in addition to caproic acid.
6. The composition of any one of the preceding claims wherein the components a : b : c are present in a molar amount of about 1 : 0.1 – 100 : 0.01 – 10 or 1 : 0.5 – 50 : 0.05 – 5 or 1 : 1 – 10 : 0.1 – 1 with respect to their mixing ratio in gaseous phase.
7. The composition of any one of the preceding claims, wherein the components a : b : c are present in a molar amount of about 1 : 1 : 0.6 with respect to their mixing ratio in gaseous phase.
8. The composition of any one of the preceding claims wherein additionally as component d one or more of further blood sucking arthropod attracting compounds are included.
9. The composition of claim 8 wherein said further attracting compounds are selected from the group of at least one of C₁ – C₃ carboxylic acids and acceptable salts thereof, selected from the group consisting of formic acid, acetic acid and propionic acid and at least one of dichlormethane, trichlormethane, acetone, phenol, 1-octen-3-ol, and fermentating yeast and an extract of fermentating yeast.
10. The composition of any one of the preceding claims wherein as component d acetic acid is included.
11. The composition of any one of the preceding claims wherein components a : b : c : d are present in a molar amount of about 1 : 0.1 – 100 : 0.01 – 10 : 0.01 – 1000 or 1 : 0.1 – 100 : 0.01 – 10 : 0.01 – 100 or 1 : 0.1 – 100 : 0.01 – 10 : 0.01 – 50 or 1 : 1 – 10 : 0.1 – 1 : 0.1 – 1 with respect to their mixing ratio in gaseous phase.

12. The composition of any one of the preceding claims comprising an effective amount of lactic acid, ammonia, caproic acid, acetic acid or acceptable salts thereof, or wherein heptanoic acid is used instead of or in addition to caproic acid.
- 5 13. The composition of claim 11 wherein the components are present in a molar amount of 1 : 1 : 0.6 : 0.2 with respect to their mixing ratio in gaseous phase.
- 10 14. The composition of any one of the preceding claims wherein ammonia is included in a mixing amount of not more than 10 times of lactic acid with respect to their mixing ratio in gaseous phase.
- 15 15. The composition of any one of the preceding claims wherein the mixing ratio of lactic acid and caproic acid is between 10 : 1 and 1 : 10 with respect to their mixing ratio in gaseous phase.
16. The composition of any one of the preceding claims wherein the mixing ratio of ammonia and lactic acid is between 1 : 1 and 1 : 50 with respect to their mixing ratio in gaseous phase.
- 20 17. The composition of any one of the preceding claims wherein the mixing ratio of acetic acid and lactic acid is between 1 : 1 and 1 : 100 with respect to their mixing ratio in gaseous phase.
- 25 18. The composition of any one of the preceding claims comprising additionally stabilizers, fragrances, preservatives, diluting agents.
19. The composition of any one of the preceding claims comprising additionally an effective amount of carbon dioxide.
- 30 20. The composition of anyone of the preceding claims wherein the amount of caproic acid is higher as the mixing amount of lactic acid and wherein the amount of ammonia is lower than the amount of lactic acid in the gaseous phase.

21. The composition of anyone of the preceding claims wherein at least two of the components a), b), c) and/or d), and preferably all of them, are used spatially separated and not in admixture with each other.

5 22. Trap or kit, which comprises components a, b, c and d, wherein components a, b, c and/or d are located in separated containers or vials.

23. Trap or kit of claim 21, which further comprises means for controlled release of components a, b, c and/or d.

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24. A method of attracting blood sucking arthropods and/or fruit flies comprising the step of exposing the environment with an evaporated composition of any one of the preceding claims, which composition is effective to attract blood sucking arthropods and/or fruit flies.

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